CLAIMS:

What is claimed is:

1. A tape library storage system, comprising:

at least one tape drive tray;

an intelligence module within the at least one tape drive tray, said intelligence module having electronics to control and monitor tape drive tray functions in the storage library; and

a main library controller interfaced to the intelligence module, wherein the intelligence module sends tape drive tray function data to the main library controller.

2. The system in claim 1, wherein the intelligence module interface includes a tape transport interface port.

3. The system in claim 1, wherein the tape drive tray function data is sent via a wireless connection.

4. The system in claim 3, wherein the wireless connection includes at least one of a radio frequency or infrared transmission.

5. The system in claim 1, wherein the main library controller transmits commands to be performed on the tape drive tray by the intelligence module.

6. The system in claim 5, wherein positive or negative acknowledgment of the commands is sent back to the main library controller after the commands are received by the intelligence module.

7. The system in claim 5, wherein the main library controller transmits the command to the intelligence module in a serial format.

8. The system in claim 7, wherein the intelligence module decodes the serially formatted command into discrete signals corresponding to a specific tape drive tray interface.

9. The system in claim 1, wherein the tape drive tray includes at least one of a tape drive, a power supply, a fan, a temperature sensor, and a fault indicator light, each interfaced to the intelligence module.

10. The system in claim 1, wherein the intelligence module sends tape drive tray function information to the main library controller in a serial format.

11. The system in claim 1, wherein the tape drive tray function data is gathered by periodically sampling status signals from the tape drive tray.

12. A method of transmitting data between a tape drive tray and a main library controller, comprising:

controlling and monitoring tape drive tray functions using an intelligence module within the tape drive tray; and

sending tape drive tray function data to a main library controller interfaced to the intelligence module, wherein the intelligence module sends the data to the main library controller.

13. The method in claim 12, wherein the intelligence module interface includes a serial interface to a tape drive.

14. The system in claim 12, wherein the tape drive tray function data is sent via a wireless connection.

15. The system in claim 14, wherein the wireless connection includes at least one of a radio frequency or infrared transmission.

16. The method in claim 12, wherein the main library controller transmits commands to be performed on the tape drive tray by the intelligence module.

17. The method in claim 16, wherein positive or negative acknowledgment of the commands is sent back to the main library controller after the commands are received by the intelligence module.

18. The method in claim 16, wherein the main library controller transmits the command to the intelligence module in a serial format.

19. The method in claim 18, wherein the intelligence module decodes the serially formatted command into discrete signals corresponding to a specific tape drive tray interface.

20. The method in claim 12, wherein the tape drive tray includes at least one of a tape drive, a power supply, a fan, a temperature sensor, and a fault indicator light, each interfaced to the intelligence module.

21. The method in claim 12, wherein the intelligence module sends tape drive tray function information to the main library controller in a serial format.

22. The method in claim 12, wherein the tape drive tray function data is gathered by periodically sampling status signals from the tape drive tray.

23. A method of transmitting data from a tape drive tray to a main library controller, wherein the data to be transmitted is gathered by an intelligence module within the tape drive tray, comprising:

periodically sampling status information generated from devices within the tape drive tray; and

sending the status information to main library controller in a serial format.

24. The method in claim 23, wherein the devices generating status information include at least one of a tape drive, a power supply, a fan, a temperature sensor, and a fault indicator light.

25. A method of controlling devices located within a tape drive tray, comprising:

transmitting control data to the tape drive tray in a serial format;

receiving the control data at the tape drive tray, wherein an intelligence module within the tape drive tray decodes the control data; and

using the intelligence module to drive discrete signal lines to a state as specified in the control data.